



WISCONSIN
INTERACTIVE
NETWORK

Document Storage Planning And Roadmap for Migration

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Introduction

This document provides information to assist an agency in planning for storage and migration needs and contains a roadmap to move content to new libraries. This document can help you to determine how many libraries you will need, how they will be organized, and how growth in number and volume of files will be accommodated. While it is not essential (and is probably not possible) that you have a complete plan in place for the entire life of your site, it is key that you have a plan for where and how to move documents during site build out and migration prior to go live and for the immediate post-go-live period.

NOTE: Documents can be moved at any time, however if a document is moved which is linked to by pages or other documents, those links must be manually updated. Therefore, it's a significant time saver to plan where documents should live and communicate this information to your content authors before they start moving content into your site.

Planning for Migration

Determine Scope

Before you can plan your document storage and migration, you should establish the scope of the content to be moved. WIN provides two tools to make this easier: the Ecosystem Diagram and the Content Inventory.

Ecosystem Diagram

The Ecosystem Diagram depicts your agency's web properties, including your agency site but also other sites which are under the management of your agency, such as your agency intranet, sites managed by other vendors, and sites belonging to agency divisions, boards, councils, or special projects. The Ecosystem Diagram helps to establish the future relationships between these things, and can help you identify all the places where documents reside which you may choose to move into SharePoint.

When you decide to roll in a site to move to SharePoint, you should identify the content of that site, and ensure it is added to the content inventory.

Content Inventory

The Content Inventory provides a list of all the content which is affected by the move to your new agency site. This master document is used to determine what gets migrated, rewritten, retired, or potentially moved to a different site entirely. During migration, it's used to track the progress of migration and to assign content, including files, to the people who are responsible for it. The Content Inventory can provide a useful way to map content to its destination in SharePoint, and can help you to analyze and plan how to organize and tag documents in document libraries.

Analysis

Analyze your existing documents for types, properties, and metadata, and for audience and content "owner". You should seek to answer key questions about your documents:

- How should they be organized so that the people managing them can find them and maintain them easily, while not making accidental changes?

- How can duplicates be avoided to ensure when a document changes that it doesn't need to be replaced multiple places, thereby increasing the likelihood of mistakes?

Planning how to organize

When you analyze the content inventory, you may determine that you want to organize documents by type (e.g. policies, procedures), or by area responsible (such as division), or by audience, or by topic. SharePoint can accommodate several ways of organizing content at once, so you don't need to be limited by one approach.

You may be able to determine how to organize the documents by having the subject matter experts imagine they need to create file folders to store the documents, and listing the names they would assign those folders in order to help others find the things they are looking for. These "file folder" names generally can be converted to SharePoint libraries, folders, and tags.

It is best to plan to have containers (libraries, folders) which will store fewer than 4500 items each. It is also best not to "nest" folders; that is, don't plan to have folders inside of folders.

If you can determine the ways that users will need to locate and maintain content, and can document them, your Project Manager can help you determine which combination of libraries, folders, metadata, and views will support them.

How SharePoint Organizes Documents

SharePoint provides a few ways of organizing content.

Libraries and Folders

The first way is by "containers"; libraries, and folders within libraries, are containers which can be used to store documents. Different libraries can have different permissions applied to them (folders can too, but WIN generally advises against applying different permissions at the folder level). A document can only be in one library, either at the main level or inside one folder, and this can present limitations for users trying to locate and manage documents.

Tags ("Metadata")

SharePoint also organizes content using "tags" (also called "metadata"), and views of libraries and folders can be configured to display content based on various tag criteria. SharePoint automatically captures some metadata for each file, such as the date created and the author. You can extend this system-generated metadata by configuring "tags", each of which can be optional or required. For example, you may decide to require each file to be tagged with the division responsible for it; WIN can then configure a required field in the library, which authors must complete for each file they create or edit.

A single document may have multiple tags applied to it, meaning that the tags can allow it to be located by various users who have different mental models of the same document. For example, a single document may be tagged by type (e.g. policy) and audience (e.g. "state employees") and subject (e.g. "contract"), and division which owns it, and views can then be configured to show items based on any combination of tags.

Views

Views can be configured to filter, sort, and group documents according to any information captured as fields in SharePoint. For example, a view can be configured to show only files created by a specific user, during a specific timeframe. Or a view can be configured to show files tagged with agency divisions grouped according to the division tags. A single container (library, folder) can contain multiple views configured to the needs of various audiences.

A word about limitations

A document library can store thousands of documents. However, because of the way the SharePoint databases are structured, a library containing thousands of documents can present issues when a user needs to view all of them; a single view can only display up to 5000 items. Therefore, it's best to have a library plan which will limit each library to at most a few thousand documents, or to organize the documents in a library into one level of folders, and limiting the contents of each folder to fewer than 5000 items. Once you have a complete content inventory and have determined the ways you would like authors to find and maintain files, your SharePoint Project Manager can assist you in identifying a combination of libraries, folders, and tags to accommodate them.

Refer to [Manage lists and libraries with many items](#) for a deeper understanding of how libraries, columns, and views work.

Plan Libraries and Views

Based on your analysis of audiences and views, as well as how the authors and approvers will be organized, determine how many document libraries you will need (you may need to do the same for images libraries if you have thousands of images). Your SharePoint Project Manager can assist you in identifying a combination of libraries, folders, views, and tags to accommodate them once you document the estimated number of documents, how the people who manage them are organized, and how they will need to organize and manage them.

Plan Document Retention and Retirement

Determine how long you will retain documents, how you will manage multiple versions of the same documents, and how you will identify and retire outdated documents. Unfortunately there is no regulation or guideline for document retention that covers all agencies; if appropriate, start by reviewing records retention statutes or requirements which apply to your agency (these may previously have been applied to hard copies, documents stored in the cloud, etc.).

Versions

By default, your SharePoint document libraries retain a version history for each file. Previous versions can be viewed and even restored, and each item has a unique URL ("link") associated with it. This means that if you upload a file to a library which already contains a file with the same name, SharePoint will add the latest uploaded file as a new version of the existing file, and any links will now access the latest version of the file. Links don't need to be updated to "point to" the latest version. Generally, agencies want to present the latest version of a file and do not want to have to add or update links each time a file changes. If this is the case for your documents, it's a good idea to establish file-naming conventions

which will ensure authors name files consistently and can upload new versions without having to check the previous name of the file.

Naming Conventions

To ensure consistency and facilitate file management as well as to reduce multiple instances of files, establish, communicate, and enforce file naming conventions as part of your quality assurance and approval processes. Authors, approvers, and others as appropriate should be aware of naming conventions for files including images as well as for pages.

Recommended Practices

1. Use CamelCase (capitalize the first letter of each word) to delimit words, rather than using spaces: e.g. RiskManagement rather than Risk_Management or Risk Management. Removing spaces and underscores reduces the filename length, but using capital letters to differentiate words allows the file name to remain readily human readable.
2. Where acronyms are used in file names, the acronym should appear in capitals, and the first letter of the following word should also be capitalized.
3. Use short but meaningful filenames, for example by consistently dropping vowels except when they are the first letter of a word, and dropping words such as “the”, “a”, “and” etc. when possible. Long file names result in long file paths and long URLs , which increase the likelihood of error, and are harder to remember .
4. Do not use dates in filenames unless they are needed. Place dates at the beginning of the filename rather than the end, and use the format YYYYMMDD. Presenting dates this way allows the files to be sorted chronologically in ascending or descending order, and to be organized by year.
5. If a version number is needed, present it as a two-digit number rather than as a one-digit number (e.g. V06 rather than V6). This helps to locate the latest record number.
6. Do not use “draft” in filenames.

Forbidden Characters

Filenames

You cannot use the following characters anywhere in a file name:

- Tilde ~
- Number sign #
- Percent %
- Ampersand &
- Asterisk *
- Braces {}[]
- Backslash \
- Colon :
- Angle brackets <>
- Question mark ?
- Slash --
- Pipe |

- Quotation mark “

Additionally:

- you cannot use periods (..) consecutively inside a file name.
- You cannot use a period at the end of a file name
- You cannot start a file name with a period

Plan Communication and Quality Assurance

Depending on the number of authors and approvers and your internal agency processes, you may wish to formalize the methods of communicating with content management staff about how to ensure consistency in naming files and pages, storing content, and determining how to manage multiple versions of content. Consult with your WIN Project Manager if you need specific solutions, such as workflows, views, or additional libraries.